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Application No. 10/743,474
Amendment dated
Reply to Office Action of June 13, 2006

Docket No.: 21581-00312-US

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A chemical conversion coating agent comprising:
at least one kind selected from the group consisting of zirconium, titanium and hafnium;
fluorine; and
an adhesion and corrosion resistance imparting agent,
wherein said adhesion and corrosion resistance imparting agent is at least one kind
selected from the group consisting of:
1 to 5000 ppm (metal ion concentration) of at least one kind of metal ion (A) selected
from the group consisting of zinc ion, manganese ion and cobalt ion;
1 to 5000 ppm (metal ion concentration) of alkaline earth metal ion (B);
1 to 5000 ppm (metal ion concentration) of metal ion (C) of Group III in the periodic
table;
0.5 to 100 ppm (metal ion concentration) of copper ion (D); and
1 to 5000 ppm (as a silicon component) of a silicon-containing compound (E), wherein
said chemical conversion coating agent does not substantially contain phosphate ions.
2. (Original) The chemical conversion coating agent according to Claim 1,
wherein the alkaline earth metal ion (B) is at least one kind selected from the group
consisting of magnesium ion, calcium ion, barium ion and strontium ion,
the metal ion (C) of Group III in the periodic table is at least one kind selected from the
group consisting of aluminum ion, gallium ion and indium ion, and
the silicon-containing compound (E) is at least one kind selected from the group
consisting of silica, water-soluble silicate compounds, esters of silicic acid, alkyl silicates, and
silane coupling agents.
3. (Previously presented) The chemical conversion coating agent according to Claim
1, containing
1 to 5000 ppm of at least one kind of a chemical conversion reaction accelerator selected
from the group consisting of nitrite ion, nitro group-containing compounds, hydroxylamine

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sulfate, persulfate ion, sulfite ion, hyposulfite ion, peroxides, iron (III) ion, citric acid iron compounds, bromate ion, perchlorinate ion, chlorate ion, chlorite ion, as well as ascorbic acid, citric acid, tartaric acid, malonic acid, succinic acid and salts thereof.

4. (Withdrawn) A surface-treated metal comprising
a chemical conversion coat formed by the chemical conversion coating agent according
to Claim 1 on a surface thereof.
5. (Withdrawn) The surface-treated metal according to Claim 4,
wherein the chemical conversion coat has a coat amount of 0.1 to 500 mg/m² in a total
amount of metals contained in the chemical conversion coating agent.
6. (Previously presented) The chemical conversion coating agent according to Claim
2, containing
1 to 5000 ppm of at least one kind of a chemical conversion reaction accelerator selected
from the group consisting of nitrite ion, nitro group-containing compounds, hydroxylamine
sulfate, persulfate ion, sulfite ion, hyposulfite ion, peroxides, iron (III) ion, citric acid iron
compounds, bromate ion, perchlorinate ion, chlorate ion, chlorite ion, as well as ascorbic acid,
citric acid, tartaric acid, malonic acid, succinic acid and salts thereof.
7. (Withdrawn) A surface-treated metal comprising
a chemical conversion coat formed by the chemical conversion coating agent according
to Claim 2 on a surface thereof.
8. (Withdrawn) A surface-treated metal comprising
a chemical conversion coat formed by the chemical conversion coating agent according
to Claim 3 on a surface thereof.

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9. (Withdrawn) A surface-treated metal comprising
a chemical conversion coat formed by the chemical conversion coating agent according
to Claim 6 on a surface thereof.

10. (Withdrawn) The surface-treated metal according to Claim 7,
wherein the chemical conversion coat has a coat amount of 0.1 to 500 mg/m² in a total
amount of metals contained in the chemical conversion coating agent.

11. (Withdrawn) The surface-treated metal according to Claim 8,
wherein the chemical conversion coat has a coat amount of 0.1 to 500 mg/m² in a total
amount of metals contained in the chemical conversion coating agent.

12. (Withdrawn) The surface-treated metal according to Claim 9,
wherein the chemical conversion coat has a coat amount of 0.1 to 500 mg/m² in a total
amount of metals contained in the chemical conversion coating agent.